

**VACUUM PLASMA PROCESSOR HAVING
A CHAMBER WITH ELECTRODES AND A COIL
FOR PLASMA EXCITATION AND METHOD OF OPERATING SAME**

Abstract of the Disclosure

A vacuum plasma processor includes a roof structure including a dielectric window carrying (1) a semiconductor plate having a high electric conductivity so it functions as an electrode, (2) a hollow coil and (3) at least one electric shield. The shield, coil and semiconductor plate are positioned to prevent substantial coil generated electric field components from being incident on the semiconductor plate. During a first interval the coil produces an RF electromagnetic field that results in a plasma that strips photoresist from a semiconductor wafer. During a second interval the semiconductor plate and another electrode produce an RF electromagnetic field that results in a plasma that etches electric layers, underlayers and photoresist layers from the wafer.